



Addressing the global health challenge of obesity in Malaysia

Workshop report

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Executive summary

Key Context

The global obesity epidemic is one of today's biggest public health problems. Obesity in Asia, especially among children, is increasing at an alarming rate. In Malaysia alone, more than half of the population are classified as overweight or obese.

Obesity places a huge health burden on individuals, exposing them to a greater risk of developing other medical conditions. In addition, increasing rates of obesity and associated health problems result in a significant economic burden on the healthcare system.

Despite multiple interventions in Malaysia, obesity prevalence continues to rise. In the discussions and breakout sessions of this workshop in Kuala Lumpur, participants discussed the extent of the obesity crisis and its challenges, and identified potential strategies to address the crisis.

Assessing the current obesity crisis

Over the past 40 years, the prevalence of obesity worldwide has nearly trebled. Workshop participants assessed the current obesity crisis at a global, regional and national level, noting the following:

- The numbers of overweight and obese people are of a concern across both high-income and low and middle-income countries (LMICs).
- The increasing prevalence of obesity and related health conditions in Malaysia represents a significant health and economic burden.
- The Malaysian Obesity Task Force, set up by the Academy of Sciences Malaysia (ASM), highlighted the need for multi-sectoral collaborations across government, and identified policy options to reduce obesity, including fiscal policies and stricter food regulations.
- The impact of the Foresight report on obesity, a landmark UK publication which informed by current research developed a map of aetiology of obesity. This map highlights the need for a comprehensive approach to obesity interventions, and formed the basis for subsequent government strategies.

Key challenges in developing a national or regional obesity strategy

Workshop participants identified a number of key challenges in developing a national or regional obesity strategy:

- There is a lack of coordination between stakeholders which impedes the development and implementation of a comprehensive strategy to tackle obesity.
- Research outcomes of obesity studies and the evaluations of obesity interventions are not effectively disseminated.
- There are no routine evaluations of interventions, despite a number being well-executed.
- Large-scale research is insufficient; hence there is a lack of local and national prevalence data on the determinants of health-related behaviours that are necessary to develop targeted policy measures.
- Obesity is not currently regarded as a public health priority within ministries beyond the Ministry of Health which leads to limited resources for interventions.

Potential solutions

Workshop participants discussed a number of potential solutions to address the challenges they identified in developing a national or regional obesity strategy:

- Better coordination is needed between government, industry and academia. Researchers should engage with government in the early stages of the research/intervention design process. This will ensure the conducted research is appropriate to inform the policy and that the introduced interventions are informed by evidence.
- Research on obesity needs to be scaled-up and the dissemination of research needs to improve. It was suggested that research outcomes could be made available alongside the materials already published by relevant government bodies.
- Consistent evaluation metrics should be used to determine the effectiveness of current obesity interventions, and this could be facilitated by the introduction of randomised trials of interventions.
- A better understanding of how the wider environment and genetic background (and the interaction between the two) influence the effectiveness of interventions is needed to help create better targeted interventions.
- The psychosocial factors affecting obesity need to be better understood.
- Decision-makers need to consider alternative measures including food-related policies such as clear nutrition labels, food reformulation, fiscal interventions on obesogenic food and drink, and the introduction of stricter marketing policies.
- Tackling obesity should be a priority, not only in government but also in the public awareness.

Conclusions

Following the discussions held during the workshop, the suggested recommendations were:

Short-term

1. To highlight to government that tackling obesity has to be a cross-ministry commitment requiring direction and monitoring at a high level e.g. by the Office of the Science Advisor, the National Science and Research Council or the Prime Minister's office. This would include direct oversight and leadership from the Prime Minister's office on obesity reduction efforts and improved coordination at all levels.
2. To review the existing ASM Obesity Task Force to ensure the objectives of this group are still relevant for the current obesity situation in Malaysia. In addition, to incorporate an objective to synthesise and review the existing reports and action plans listed in table 1 and to regularly monitor the obesity situation including through the use of an obesity index.
3. To promote a holistic view in tackling obesity and its complications. This should encompass exercise, town planning, and weight reduction motivations and not just focus on the linkage of food consumption to obesity.

Long-term

4. To frame obesity reduction explicitly as an integral part of the national development agenda through the 12th Malaysia Plan 2020–2025. In the meantime to also ensure that the goals of the 11th Malaysia Plan 2015–2020 are achieved.
5. To develop good quality data, including national level data which should be collected periodically, and disaggregated for appropriate and timely interventions.
6. To advocate to policymakers to consider 'harder' policies such as imposing a sugar tax, the removal of subsidies on cooking oil and flour, and the use of zero GST to incentivise healthier dietary, physical and mental lifestyles.

The ASM, in its advisory position, has a unique role to play in driving these solutions forward. It should undertake to carry out the following actions:

1. Present this report to the Science Advisor and negotiate for cross-ministerial dialogue (e.g. Ministry of Health, Ministry of Education, Ministry of Youth and Sports, Ministry of Science, Technology and Innovation, Ministry of Urban Wellbeing, Housing and Local Government) to discuss the report and develop cross-ministerial/multi-pronged strategies to tackle obesity within the next six months.
2. Activate the ASM Obesity Task Force to consider and carry forward ASM's roles in the short and long-term recommendations set out above.
3. Advocate for the ASM Obesity Task Force to be an integral component of a national group to carry out and monitor cross-ministerial strategies.

Introduction

The global obesity epidemic is one of today's most intractable public health problems. Over two billion adults worldwide are overweight (BMI >25kg/m²) and 600 million of these are obese (BMI >30kg/m²).^{1,2} The prevalence of obesity is rising and it is projected it will affect almost half of the world's adult population by 2030.³

Obesity places a huge economic burden on healthcare systems. The global financial burden is around \$2 trillion USD and in the UK alone, £6 billion is spent by health services on the cost of medical conditions related to obesity, with an additional £10 billion on diabetes each year.⁴

Although the prevalence of obesity is lowest in Asia, the rate of increase in the region is among the fastest, and South Asians are particularly susceptible to weight-related diabetes. Malaysia in particular suffers from one of the highest levels of obesity in East and South-East Asia. Nearly half of its adult population is classified as either overweight or obese and more than 7% of children under the age of five are classified as overweight.⁵

Obesity also places a huge health burden on individuals, exposing them to a greater risk of developing other medical conditions including high blood pressure, type 2 diabetes, coronary heart disease, osteoarthritis, depression, and several types of cancer, particularly gastrointestinal cancers.^{6,7} In Malaysia alone, a third of the population suffer from high blood pressure, nearly half have high cholesterol levels and almost a fifth have diabetes.⁸ Obesity in pregnancy imposes multiple risks for both mother and offspring who may suffer lifelong consequences. Obesity is also a leading cause of lost economic productivity. Childhood obesity in particular is one of the most serious public health challenges of the 21st century. Overweight and obese children are likely to stay obese into adulthood and are more likely to develop non-communicable diseases such as diabetes and cardiovascular diseases at a younger age.

In recognition of the fact that South Asians carry a greater proportional risk of co-morbid events for any given BMI the World Health Organization (WHO) has recommended a separate set of cut-offs as follows: less than 18.5 kg/m² (underweight); 18.5–23 kg/m² (normal); 23–27.5 kg/m² (overweight) and 27.5 kg/m² or higher (obese).⁹ This report will however make country comparisons using the global cut-offs of 25kg/m² for overweight and 30kg/m² for obesity.

1. McKinsey Global Institute (2014). Overcoming obesity: An initial economic analysis. <http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/how-the-world-could-better-fight-obesity>
2. World Health Organization (2016). Obesity and overweight. <http://www.who.int/mediacentre/factsheets/fs311/en/>
3. Kelly T, Yang W, Chen CS, Reynolds K, He J (2008). Global burden of obesity in 2005 and projections to 2030. *International Journal of Obesity* **32(9)**, 1431-1437
4. McKinsey Global Institute (2014). Overcoming obesity: An initial economic assessment. <http://www.mckinsey.com/industries/healthcare-systems-and-services/our-insights/how-the-world-could-better-fight-obesity>
5. Ministry of Health Malaysia (2015). National health and morbidity survey 2015. <http://www.iku.gov.my/images/IKU/Document/REPORT/nhmsreport2015vol2.pdf>
6. Centers for Disease Control and Prevention (2015). The health effects of overweight and obesity. <https://www.cdc.gov/healthyweight/effects/>
7. <https://www.ncbi.nlm.nih.gov/pubmed/27010240>
8. Institute for Public Health (2015). National Health and Morbidity Survey 2015. Vol. II: Non-Communicable Diseases, Risk Factors & Other Health Problems. <http://www.iku.gov.my/images/IKU/Document/REPORT/nhmsreport2015vol2.pdf>
9. http://www.who.int/nutrition/publications/bmi_asia_strategies.pdf

In 2005, the Malaysian Association for the Study of Obesity published a report that recognised the shared responsibility of government, industry, professional bodies, non-governmental organisations, communities and individuals in the management of obesity.¹⁰ Since then, intervention strategies that support healthy eating and active lifestyles have been implemented through various initiatives and programmes.¹¹ In 2013, the ASM set up an Obesity Task Force to focus on potential policy options to combat obesity in Malaysia.¹² However, studies on intervention programmes show that weight loss is not easily achieved nor maintained and thus more effort needs to be invested both to improve the effectiveness of treatment programmes and in the primary prevention of excess weight gain.¹³

Against this backdrop, a two-day workshop of key stakeholders from Malaysia, the UK and other regional countries was held on 2–3 October 2017, jointly organised by the UK Academy of Medical Sciences and the ASM.

This report provides a summary of the key themes that emerged during the workshop discussions. It reflects the views expressed by participants at the meeting and does not necessarily represent the views of all participants or of the UK Academy of Medical Sciences or the ASM.

The workshop was funded by the UK Government's Global Challenges Research Fund and was one of a series of policy workshops co-organised by the UK Academy of Medical Sciences that aim to:

- Enable partners (primarily National Academies) in Official Development Assistance (ODA) eligible countries to consider how scientific evidence can help address key global health challenges.
- Build capacity in ODA countries for the provision of scientific advice.

Further information and reports from the programme of workshops can be found at www.acmedsci.ac.uk/GCRF

10. Malaysian Association for the Study of Obesity (2005). Strategy for the prevention of obesity – Malaysia. http://www.maso.org.my/spom/spom_intro.pdf

11. UNICEF (2016). Overcoming childhood obesity and malnutrition in Malaysia. https://www.unicef.org/malaysia/media_double%20burden%20-%20malnutrition%20-%20obesity%20-%20children%20-%20Malaysia%20.html#WruV9dPwZUN

12. Academy of Sciences Malaysia (2013). Prioritising food policy options to reduce obesity in Malaysia. Malaysia

13. Ghee LK (2016). A review of adult obesity research in Malaysia. The Medical Journal of Malaysia 71, 1-19. http://www.crc.gov.my/wp-content/uploads/2014/10/MJM_Supplement-Reviews-of-Malaysians-Research-on-Major-Diseases-2000-2015.pdf

Assessing the current obesity crisis

A global crisis

The burden created by populations who are increasingly likely to be obese or overweight has emerged as one of the biggest threats to health across the world. Over the past 40 years, the prevalence of obesity worldwide has nearly trebled. Workshop participants heard that in 2016, more than 1.9 billion adults aged 18 years and older were overweight. Of these, over 650 million were obese. Overall, about 13% of the world's adult population (11% of men and 15% of women) were obese in 2016 with an estimated 41 million children under the age of five years being overweight or obese.¹⁴

Although obesity was once considered a problem confined to high-income countries, the prevalence of being overweight and obesity is now increasing across LMICs. This is particularly apparent in urban areas where obesity levels are increasing at an alarming rate. The number of people who are overweight in LMICs more than trebled between 1980 and 2008, with incidence rates increasing from 23% to 34%.¹⁵ In Africa, the number of children under five who are overweight has increased by nearly 50% since 2000. Nearly half of the children under five who were overweight or obese in 2016 lived in Asia.¹⁶

WHO developed the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020 with the aim of achieving the commitments of the Political Declaration of the UN High-level Meeting on the Prevention and Control of Noncommunicable Diseases (NCDs) which was endorsed by Heads of State and Government in September 2011, including from Malaysia. The Global Action Plan aims to contribute to progress on nine global NCD targets to be attained by 2025, including a 25% relative reduction in premature mortality from NCDs by 2025 and a halt in the rise of global obesity to match the rates of 2010.

In 2014, the Commission on Ending Childhood Obesity was established to review, build upon and address gaps in existing mandates and strategies. Workshop participants heard that the Commission developed a set of six recommendations to successfully tackle childhood and adolescent obesity in different contexts around the world. It called on governments to take a leadership role and for all stakeholders to recognise their moral responsibility to act on behalf of children to reduce the risk of obesity. The recommendations were presented under the following areas:

1. Weight management
2. Promote intake of healthy foods
3. Promote physical activity
4. Health, nutrition and physical activity for school-age children
5. Early childhood diet and physical activity
6. Preconception and pregnancy care

14. World Health Organization (2016). Obesity and overweight. <http://www.who.int/mediacentre/factsheets/fs311/en/>

15. http://www.who.int/healthinfo/global_burden_disease/GlobalHealthRisks_report_part2.pdf

16. World Health Organization (2016). Obesity and overweight. <http://www.who.int/mediacentre/factsheets/fs311/en/>

Obesity in Malaysia

Despite Malaysia making repeated attempts to tackle the issue of obesity, the prevalence of being overweight and obesity has continued to rise year-on-year. Workshop participants heard that over half of the population of Malaysia are either overweight (13.3%) or obese (38.5%). Currently 73% of deaths each year are caused by non-communicable diseases, and often those associated with obesity, such as cardiovascular diseases, diabetes, cancer and chronic respiratory diseases.¹⁷

Another area of focus during the workshop was the financial toll of the obesity crisis in Malaysia. Within the Association of Southeast Asian Nations (ASEAN) the total cost of obesity is highest in Malaysia, where estimates are equivalent to between 10% and 19% of national healthcare spending.¹⁸

For countries that have long battled poverty and undernutrition, workshop participants agreed that the rise in being overweight and obesity may have been considered a sign of increasing economic prosperity, but that this is an unhelpful interpretation and presents a challenge for ASEAN countries as they face the additional effects of increasing affluence. Malaysia is experiencing obesity and overweight at a far earlier stage in their economic development cycle than other affluent countries did, and the combined effects of communicable and non-communicable diseases now represent a sizeable public health threat. In terms of affected populations, Malaysia is unusual in that there is not a significant difference between urban and rural obesity.¹⁹

Workshop participants heard that in Malaysia, fat and sugar intake increased by 80% and 33%, respectively, between the early 1960s and 2005,²⁰ and the Malaysian Adult Nutrition Survey reported that only one-third of the adult population had ever exercised and only 14% performed adequate levels of exercise.²¹ It was also highlighted that an increasing focus on academic excellence has led to additional hours of tuition and academic work among children which has resulted in a lack of physical activity education.^{22,23}

In 2013, the ASM set up an Obesity Task Force to focus on potential policy options to combat obesity in Malaysia. This task force aimed to create and maintain an effective knowledge exchange system, articulate the policy directions needed for obesity prevention, organise workshops to identify and assess obesity prevention policy options, model potential policy interventions to reduce obesity and advocate for effective, evidence-informed policy actions to combat obesity. Workshop participants heard that that main recommendations from this task force were:

1. The government should recognise the seriousness of obesity and the related health threat of being overweight to the wellbeing of Malaysians and its impact on the economy and national budgets, and make the decision to take strong action using multiple policy tools (including the 'hard' tools of regulation and fiscal policies) across the relevant ministries.
2. The Ministry of Health's efforts in implementing healthy food policies throughout all public institutions including schools, government ministries and agencies should be fully supported by all relevant partners.
3. The Ministry of Health should strive towards setting nutrient targets and standards for food composition and work with the food industry to reformulate foods to become healthier.
4. The Ministry of Health should develop an evidence-informed, clear, consistent, interpretable, accessible, front-of-pack nutrition label (such as the colour-coded system being implemented in the UK).
5. The Ministry of Health should continue to work with other relevant ministries to develop statutory regulations to restrict the marketing of unhealthy foods to children, predominantly on television, but also through other media.

17. The Economist Intelligence Unit 2017. Tackling obesity in ASEAN: Prevalence, impact and guidance on interventions.

18. Ibid.

19. Ministry of Health Malaysia (2015). National health and morbidity survey 2015. <http://www.iku.gov.my/images/IKU/Document/REPORT/nhmsreport2015vol2.pdf>

20. Academy of Sciences Malaysia (2013). Prioritizing food policy options to reduce obesity in Malaysia.

21. Poh BK, et al. (2010). Physical activity pattern and energy expenditure of Malaysian adults: Findings from the Malaysian Adult Nutrition Survey (MANS). *Malaysian Journal of Nutrition* 16(1), 13-37.

22. <https://educ.utm.my/noordayana/files/2012/10/noordayana.pdf>

23. <http://journals.sagepub.com/doi/pdf/10.1177/1010539516650726>

6. The Treasury should revise food fiscal policies so that they promote, not undermine health, and consider the removal of subsidies on palm oil and sugar and use the savings to support strategies to increase fruit and vegetable consumption.

Despite raising awareness of the need for such efforts and initiatives, rates of obesity and being overweight continue to rise in Malaysia.

Timeline of obesity efforts in Malaysia

There have been several programmes that have been implemented to combat obesity in Malaysia. Some of the most notable include:

Title	Description
Healthy Lifestyle Campaign (1997)	A healthy eating component was introduced for the first time through this campaign.
Less is More Campaign (1998)	Introduced to reduce the sugar intake of the Malaysian population. It was geared towards food stalls/hawkers, restaurants and caterers to reduce sugar in their food preparation.
National Nutrition Policy of Malaysia (2005) and the Second National Plan of Action for Nutrition of Malaysia (2006–2015)	These programmes encompassed all life stages and settings (schools, institutions, and workplaces) in order to address the obesity crisis in Malaysia.
Reduce Sugar Intake Campaign (2010)	In response to the increasing prevalence of obesity and diabetes during the past decade, the reduce sugar intake campaign was relaunched in 2010 to target individuals and households more. The campaign was also aimed at food operators and a series of dialogues with food industries was held to reduce sugar in soft drinks and beverages, biscuits and baked products, dairy products, cereals and cereal-based products and canned products, organised by the Ministry.
ASM Task Force on Obesity (2013)	The ASM set up an Obesity Task Force to look at potential policy options to combat obesity in Malaysia. The focus was to look at 'hard policies' such as regulations or fiscal policies (e.g. tax on unhealthy foods, the removal of subsidies) which can be used as intervention tools to reduce obesity. There was no monitoring system set up, resulting in poor evaluation of this task force and its actions.
Prioritizing Food Policy Options to Reduce Obesity in Malaysia (2013)	This report, the first of its kind, looked at food policy options and aimed to spur government into action, in order to reduce the prevalence of obesity in Malaysia.

UK policies to tackle obesity

Professor Susan Jebb from the University of Oxford provided examples of the UK's policy efforts to tackle obesity. She highlighted that it has been difficult to persuade governments of many different political persuasions that investment should be made in preventing and treating obesity.

Participants heard about a report published in 2007 by the UK's Government Office for Science under its Foresight Programme titled *Tackling Obesities: Future Choices*. This aimed to produce a long-term vision of how a sustainable response to obesity in the UK can be delivered over the next 40 years.

The report involved four work packages that helped inform how government could put together an effective and sustainable obesity strategy. The intention from the outset was not to develop specific recommendations. Instead, it sought to come up with a series of guiding principles. One of the benefits of this approach is that it allows politicians of any particular party to tailor the strategy to fit their political ideology.

Below is a summary of the four packages:

Short science reviews

Approximately 20 of the UK's leading scientists were asked to briefly describe what they thought needed to be known in their area of expertise in relation to obesity. This involved the experts synthesising all the evidence they had and providing key points which they felt would be vital for policymaking. This proved to be a quick way to gain an understanding of the science behind obesity, and also helped to inform a systems map that was developed next.

Obesity systems map

Using the short science reviews and a series of workshops with experts and policymakers a dynamic loop system map was developed to conceptualise the aetiology of obesity. The heart of the map revolves around the physiological principles of energy balance. The system is underpinned by the biological regulatory system, anchored on each side by diet and activity, acting at both the individual and societal levels. In the case of food this means individual food choices made within the wider system of food supply and distribution. Likewise for physical activity there are choices made by individuals, but these are framed by the opportunities available to be active such as roads where it is safe to cycle or green spaces for outdoor leisure activities. These elements are overlaid by a range of individual psychological determinants – such as stress and self-esteem – which influence an individual's decision-making capacity. The core of the systems map notes that as humans have a biological drive to seek out food, in an environment of plenty the system is biased towards weight gain.

The obesity system map has a high level of complexity. However policymakers could see that if they relied solely on isolated initiatives to tackle obesity – perhaps just addressing one or two of the nodes in this map – it was probably not going to be sufficient to fully address the problem because of the potential for compensatory effects of other drivers of obesity.

'Most promising' interventions

Within this package, it was recognised that action needed to be taken now. Ideally it is best to wait for evidence that an intervention would actually work, however the reality is that waiting for complete evidence may result in long delays and also any synergistic effects of multiple policies can only be measured when action is taken in a real-world setting. Therefore, the report recognised that it was important to gather evidence as the policy programme rolled out, so there was continual evaluation. Meanwhile to address the evidence gap, four future scenarios were developed where a variety of possible policies were identified and their effectiveness in each scenario was elicited through expert opinion involving academic input and the views of stakeholders, including policymakers, in a series of workshops.

Five policies were identified as the most effective in all four scenarios. They were:

1. Investment in early-life interventions.
2. Controlling the availability of, and exposure to, obesogenic food and drink.
3. Improving the built environment to increase walking and cycling.
4. Increasing the responsibility of organisations for the health of their employees.
5. Targeting health interventions for those at high risk.

Economic modelling

The economic modelling package was the key mechanism which engaged the UK government by demonstrating the likely cost of inaction. The projections indicated that if nothing was done, by 2010, obesity would take up 6% of the total UK National Health Service (NHS) expenditure, and this would increase to 13.9% by 2050.

At the end of the project, the report detailed six principles for a sustainable strategy to tackle obesity in the UK:

1. Interventions at different levels: Individual, local, national and global.
2. Systemic change across the system map.
3. Interventions across the life-course.
4. A mixture of initiatives, enablers and amplifiers.
5. Short, medium and long-term plans for change.
6. Ongoing evaluation and continuous improvement.

Evaluation

The Foresight report is recognised internationally as a landmark publication, achieving a degree of scientific consensus in a hotly debated area and bridging the gap between science and policy to tackle obesity. It led directly to two successive obesity strategies in England from two governments of different political ideologies. In an analysis of stakeholder views on the first of these strategies, the Foresight report was repeatedly cited as a key component.²⁴

In the decade since the report was published there has been a concerted approach to tackle obesity in England, primarily focused on prevention and with particular emphasis on children (despite the Foresight analysis which promoted a stronger life-course approach).²⁵ This includes a number of important policies linked to 'best-bets', especially around controlling the availability of, and exposure to, obesogenic food and drink, such as new government standards for the procurement of food in the public sector and food provision in schools, modest restrictions on the marketing of food to children on television, front-of-pack labelling, a food reformulation programme and the forthcoming fiscal intervention in the form of the soft drink industry levy. There has been some action in relation to infrastructure for active travel and continued promotion of breastfeeding, but action on employee health or interventions for people at high risk, usually interpreted as treatment programmes, has been rather limited.

Stakeholders point to insufficient pressure on industry to contribute to improvements in health, particularly their responsibility to create a healthy food environment. They also note that the evaluation of initiatives or of the overall obesity programme is limited and suggest that much stronger emphasis needs to be placed on an active learning model to foster continuous improvement.²⁶

Ten years on from the publication of the Foresight report the rate of increase in the prevalence of obesity has markedly slowed, though there is no evidence of a decrease. Moreover inequalities are increasing, with children living in the decile of greatest deprivation being twice as likely to be obese as their peers in the least deprived decile. Clearly much more needs to be done in the next decade to realise the improvements in public health from preventing and treating obesity.

24. Hawkes C, Ahern AL & Jebb SA (2014). A stakeholder analysis of the perceived outcomes of developing and implementing England's obesity strategy 2008–2011. *BMC Public Health* 10, 14-441. <https://www.ncbi.nlm.nih.gov/pubmed/24886563>

25. Jebb SA, Aveyard PN & Hawkes C (2013). The evolution of policy and actions to tackle obesity in England. *Obesity Reviews* 2, 42-59. <https://www.ncbi.nlm.nih.gov/pubmed/24102966>

26. Hawkes C, Ahern AL & Jebb SA (2014). A stakeholder analysis of the perceived outcomes of developing and implementing England's obesity strategy 2008–2011. *BMC Public Health* 10, 14-441. <https://www.ncbi.nlm.nih.gov/pubmed/24886563>

Key challenges in developing a national or regional obesity strategy

Lack of coordination

Workshop participants agreed that although the ASM Obesity Task Force included input from various stakeholders, a more formal and empowered partnership between the different relevant ministries, industry and academia needs to be established where responsibility is clearly assigned for tasks. The lack of coordination between different sectors and stakeholders in Malaysia has meant that many researchers do not know what the government is doing and the government does not know what the latest research findings are saying. The same issues apply to how industry works with these groups and vice versa. In addition, researchers themselves are not completely aware of their colleagues' research, even within disciplines and there are also too few inter-disciplinary dialogues.

Participants felt it was important to note that for obesity prevention, many of the policy areas requiring action fall outside the Ministry of Health's jurisdiction and are within other ministries such as Trade, Agriculture and Consumerism. Therefore, a comprehensive and coherent approach operating across government and involving multi-sectoral stakeholders is urgently needed to identify and prioritise policy options to combat obesity in Malaysia.

It was noted that the National Coordinating Committee on Food and Nutrition within the Ministry of Health is tasked with addressing nutrition specific and nutrition sensitive issues. However, this committee faces challenges in follow-up action and evaluation by its stakeholders, which include government, industry and academia. This is evident through the lack of top-down and bottom-up coordination between all stakeholders.

It was agreed that this is not an issue limited to Malaysia. There are very few multi-stakeholder mechanisms or platforms for private-public engagement to tackle the challenges in other countries across the world. This provides an opportunity to identify any examples of best practice in countries where these mechanisms or platforms exist and learn lessons from them.

Small-scale research and lack of dissemination

A recurring theme in many of the discussions was around the current obesity research taking place in Malaysia. Participants highlighted that while there is some research taking place locally on obesity interventions, the studies are small scale in nature and insufficient to inform policy. It was argued that this is mainly due to a lack of funding and awareness of what is going on at all levels to tackle obesity among the various stakeholders.

The result often means researchers use data from other countries to justify their research questions. Therefore, more focus is needed on local datasets to understand local settings. The results from the small local studies often do not end up being made public and are rarely shared with other researchers.

Poor evaluation of public health interventions

Another problem highlighted by workshop participants was the lack of evaluation of current public health obesity interventions. It was agreed that there are many public health programmes in Malaysia, and the strengths and weaknesses are often well understood, but the effectiveness of these programmes is unknown and there remain many challenges to effective implementation even when programmes appear promising.

Much of the obesity research that participants have observed over the last 20 to 30 years was well intended and well executed, but unfortunately lacked adequate planning and follow-up to assess whether the interventions had been effective in reaching the target groups and achieving their intended goals. The follow-up that has been done is often inconsistent and not collected in a systematic way.

Some Malaysian nutrition programmes have been evaluated, however disseminating the information has been problematic and inconsistent, resulting in government agencies being unaware of research findings that could guide future priorities.

Lack of granular data on obesity prevalence

Workshop attendees felt that although the Ministry of Health has comprehensive data on the prevalence of obesity at the population level across all age groups, from the early 1990s onwards, there is an uneven appreciation of the contribution of the behaviour of Malaysians and living environments across the life-course. They agreed that when there is no empirical basis upon which to design interventions, the policymaking process to tackle obesity becomes problematic. This in turn can constrain policymaking and lead to untargeted programmes with almost no evaluation of their impact.

In order to design smarter policies, it is crucial for governments and healthcare stakeholders to understand where obesity is increasing in terms of ethnic groups, gender and regions. For example, urban planning reforms designed to improve access to exercise facilities could be targeted at regions that are densely populated with groups more vulnerable to obesity. Likewise, outreach efforts could target areas where child obesity is increasing rapidly.

Prioritisation of obesity interventions by policymakers

In Malaysia, the government has only recently overcome the challenge of undernutrition. As a result, although the Ministry of Health has always considered obesity as a public health issue, it has not been prioritised by the government, hence limited resources are being allocated to interventional responses and populations have little awareness on the dangers of obesity. Although Malaysia has other challenges to tackle, the long-term cost of obesity and its strong connection to NCDs suggest that acting early would be prudent. In addition, it might be useful to do more modelling to show likely future trends in diabetes and other obesity-related diseases.

Better coordination between government, industry and academia

Workshop participants highlighted that stronger coordination between all parties in Malaysia would address the discrepancy between the research that is being conducted and what is needed by the different ministries' programmes. This would help link the research and the work being done in the field in Malaysia and enable it to be related to public health initiatives and policy development. Any such task force or group would be best placed within the Prime Minister's office or the National Science and Research Council, which is chaired by the Prime Minister. This would help to empower the group to make decisions and ensure all ministries are represented.

One way in which this could be achieved is for scientists and ministry officials to engage with one another early on in the intervention/study design process. This would help to ensure that everyone is on the same page and meeting each other's expectations. It is crucial that these activities are ongoing to shape the research and to hear and respond to the findings.

In addition, scientists need to consider creating short policy briefs to explain the research outputs; similar to what the National Institutes of Health is currently doing in the US and other developed countries.

Improving research uptake

Participants agreed that the dissemination of research in Malaysia needs to improve in order to tackle obesity. At the moment there is a perception that not enough research is being done. However, participants highlighted the multiple recent and ongoing efforts researchers are making, but noted that very few people beyond the area of nutrition and related researchers are aware of some of these efforts and therefore they are not using the information.

One potential solution could be through the current mechanism for nutrition and related research. The Ministry of Health Nutrition Division published the Nutrition Research Priorities (NRP) 2011–2015 and 2016–2020 in tandem with the 10th and 11th Malaysia Plan respectively (five-year development plans). The NRPs are comprehensive and identified key research areas and topics, and offer an opportunity to improve research uptake.²⁷

Recognising the role of ministries other than the Ministry of Health in tackling obesity in Malaysia was highlighted as critical, and that research needed to be disseminated more widely to address this. Policymakers who can tackle obesity are no longer only in the Ministry of Health, and action goes beyond public health policies and interventions for NCDs. Therefore, in order to close the gap between knowledge and usefulness, it is important for researchers to link their results into practical policy actions and do so across all relevant ministries. In addition, coordinators will be needed to link obesity research with key stakeholders to translate it into practical policy actions.

27. http://nutrition.moh.gov.my/wp-content/uploads/2016/12/FA_Buku_NRP.pdf

Effective evaluation of public initiatives

At present, public initiatives designed to tackle obesity in Malaysia are being performed with limited evidence of their effectiveness and a lack of metrics to track their performance.

Workshop participants suggested that randomised trials of interventions (where applicable) would help to track effectiveness and could inform decisions regarding budgetary allocation. Randomised trials can also help monitor the impact of an intervention and exclude confounding variables, helping to reveal which factors play the most substantial role in driving obesity. Without rigorous evaluations, governments may be deploying time and resources into ineffective obesity initiatives.

Understanding the key barriers to interventions

As highlighted in Table 1 there have been many different attempts at tackling obesity in Malaysia. However, there was agreement from participants that there is a need to change the approach of current interventions. It was suggested that interventions have largely been approached in the same way and just repackaged slightly which has proved inadequate and has not addressed key barriers.

An example was provided where the main basis of interventions is often to increase knowledge and public awareness of obesity but the focus on changing motivation is minimal. Moreover, evidence from the Foresight analysis in the UK and a large body of research into behaviour change demonstrates the profound impact of the wider environment in shaping individual behaviours,²⁸ but evaluations of this type of intervention are lacking in Malaysia.

Another example of a key research area that needs to be better understood is that of genetics and early-life predictors of obesity in Malaysia. Participants heard that Asian populations have a higher percentage of body fat compared to Caucasians of the same weight and that this discrepancy is not accounted for with body mass index. These differences mean that the metrics for measurement of obesity differ from country to country. Without examining these issues through research, it will be hard to design an intervention with lasting change. Therefore, participants suggested that further research is needed in these fields with both individual and population level interventions considered.

In addition, the environment remains a priority area, including the interaction between the environment and genetics (epigenetics). Knowledge in this area can provide a better understanding of the effect of the environment on populations and the impact of modulating it, and can help to improve tailor-made strategies. Participants agreed that there is no one-size-fits all strategy and that 'precision medicine' should be included.

Analysing psychosocial factors affecting obesity

Workshop participants agreed that the problem with current public obesity interventions was apathy and there was a need to change the public's mindset from 'don't bother' to 'bother'. However, participants noted that even if you provide the public with choices they have to drive the change themselves, and if the environment does not support that change, it is difficult for the public to do so.

There was an observation that there is also a lack of motivation for patients to take responsibility for their own health. Perhaps because Malaysia provides a fairly comprehensive and affordable healthcare system, people tend to rely on this to solve their illnesses, including obesity-related conditions, as and when they arise rather than making lifestyle changes to prevent root causes.

There was agreement that the psychosocial factors affecting obesity need to be better understood. In terms of research, this means involving experts from sociology, anthropology and behavioural science to help design studies and interventions on obesity, not just medical doctors or nutritionists alone. It is important to understand why people do the things they do when it comes to obesity.

28. <https://www.ncbi.nlm.nih.gov/pubmed/22997327>

Encouraging different approaches

Workshop participants discussed alternative approaches to the current status quo in responding to obesity. These included clear, simple and evidence-based food labelling, restricted access to and content of vending machines and portion size reductions in schools and other institutions, as well as greater collaboration between industry and government on food product reformulation and innovation. These interventions are in addition to developing best-practice codes of conduct with a legal framework for food and beverage marketing, especially to children. Participants all agreed that innovative solutions should focus on children's healthy lifestyles, including good eating habits and healthy choices, and the prevention of obesity and that this will be critical in moving forward.

However, it is also important to note that children are largely a product of environments created by adults. Attitudes among adults also need to change otherwise it may be hard to make progress on children's health. In addition, health costs are being incurred by adults now and into the future, and therefore the opportunity to save costs and improve health will be missed if adults are not targeted too.

Changing public and political mindset

There was discussion about how good evidence alone is not enough and that there needs to be strong political will and public support to tackle obesity. It is therefore important to consider how to get support for a specific intervention, and how to engage with the key political person or group responsible within that particular area of intervention.

Participants heard about the example of schools that come under the Ministry of Education, where it is essential to get ministry officials to buy into the importance of helping overweight school students lose weight and preventing other children becoming overweight. Too often their main concern is focusing on high academic achievement.

One potential solution could be to refocus obesity intervention outcomes by linking obesity with wider benefits, such as academic performance, by identifying which important obesity indicator is linked with academic performance. This would pique the interest of parents and politicians alike.

Conclusions

The workshop summarised the current obesity crisis globally, in the UK, and in Malaysia and the surrounding region. It also identified several barriers and challenges encountered in Malaysia in tackling obesity. These centred on a lack of coordination, small-scale research, poor evaluations, lack of data and problems around the prioritisation of obesity interventions.

Participants did note a number of potential solutions to these issues, including better coordination mechanisms, improving research uptake, understanding the key barriers, addressing psychosocial factors, focusing on innovation and changing the mindsets of the public and politicians.

Following the discussions held during the workshop, the suggested recommendations were:

Short-term

1. To highlight to government that tackling obesity has to be a cross-ministry commitment requiring direction and monitoring at a high level e.g. by the Office of the Science Advisor, the National Science and Research Council or the Prime Minister's office. This would include direct oversight and leadership from the Prime Minister's office on obesity reduction efforts and improved coordination at all levels.
2. To review the existing ASM Obesity Task Force to ensure the objectives of this group are still relevant for the current obesity situation in Malaysia. In addition, to incorporate an objective to synthesise and review the existing reports and action plans listed in table 1 and to regularly monitor the obesity situation including through the use of an obesity index.
3. To promote a holistic view in tackling obesity and its complications. This should encompass exercise, town planning, and weight reduction motivations and not just focus on the linkage of food consumption to obesity.

Long-term

4. To frame obesity reduction explicitly as an integral part of the national development agenda through the 12th Malaysia Plan 2020–2025. In the meantime to also ensure that the goals of the 11th Malaysia Plan 2015–2020 are achieved.
5. To develop good quality data, including national level data which should be collected periodically, and disaggregated for appropriate and timely interventions.
6. To advocate to policymakers to consider 'harder' policies such as imposing a sugar tax, the removal of subsidies on cooking oil and flour, and the use of zero GST to incentivise healthier dietary, physical and mental lifestyles.

The ASM, in its advisory position, has a unique role to play in driving these solutions forward. It should undertake to carry out the following actions:

1. Present this report to the Science Advisor and negotiate for cross-ministerial dialogue (e.g. Ministry of Health, Ministry of Education, Ministry of Youth and Sports, Ministry of Science, Technology and Innovation, Ministry of Urban Wellbeing, Housing and Local Government) to discuss the report and develop cross-ministerial/multi-pronged strategies to tackle obesity within the next six months.
2. Activate the ASM Obesity Task Force to consider and carry forward ASM's roles in the short and long-term recommendations set out above.
3. Advocate for the ASM Obesity Task Force to be an integral component of a national group to carry out and monitor cross-ministerial strategies.

Appendix 1: Workshop steering committee

The organisation of this workshop was overseen by a steering committee based in both Malaysia and the UK. The steering committee members are:

Co-chair: Academician Distinguished Professor Datuk Dr Looi Lai Meng FASc,
Distinguished Professor, University of Malaya and Senior Fellow, Academy of Sciences Malaysia

Co-chair: Professor Andrew Prentice FMedSci,
Professor of International Nutrition, Head MRC International Nutrition Group at London School of Hygiene & Tropical Medicine

Professor George Griffin FMedSci,
Vice President International, Academy of Medical Sciences

Professor Susan Jebb OBE,
Professor of Diet and Population Health, University of Oxford

Emeritus Professor Dr Khor Geok Lin FASc,
Universiti Putra Malaysia

Professor Lucilla Poston FMedSci,
Tommys Campaign Professor of Maternal & Fetal Health, King's College London

Professor Abhimanyu Veerakumarasivam,
Sunway University

Professor Nick Wareham,
Director of the MRC Epidemiology Unit, Medical Research Council

Professor Dr Lee Yeong Yeh,
Universiti Sains Malaysia

Professor Dato' Dr Anuar Zaini Md Zain FASc,
Jeffrey Cheah School of Medicine and Health Sciences, Monash University

Appendix 2: Participants list

Associate Professor Dr Syahrilnizam Abdullah
Universiti Putra Malaysia

Professor Dr Endang Laksmningsih Achadi
Universitas Indonesia

Professor Peymane Adab
University of Birmingham

Associate Professor Dr Raja Affendi Raja Ali
Universiti Kebangsaan Malaysia

Dr Geeta Appannah
Universiti Putra Malaysia

Dr Mahenderan Appukutty
Universiti Teknologi Mara

Dr Syarifah Azizah Wan Ahmadul Badwi
International Islamic University Malaysia

Ms Elizabeth Bohm
UK Academy of Medical Sciences

Dr Arunah Chandran
Gombak District Health Office

Dr Manraj Singh Cheema
Universiti Putra Malaysia

Dr Chan Soon Choy
Perdana University

Associate Professor Dr Ivy Chung
University of Malaya

Dr Norlida Bt Mat Daud
Universiti Kebangsaan Malaysia

Puan Rokiah Don
International Medical University

Associate Professor Dr Pung Yuh Fen
University of Nottingham, Malaysia

Dr Eric Finkelstein
Duke NUS Medical School, Singapore

Dr Nur Fareisha Bt Md Hashim
Universiti Putra Malaysia

Mr Alex Hulme
UK Academy of Medical Sciences

Madam Jasmiah Ismail
Research & Development Division, PLAN Malaysia

Associate Professor Dr Muhammad Yazid Bin Jalaludin
University of Malaya

Dr Amira Hajirah Bt Abd Jamil
University of Malaya

Dr Siti Hamimah Bt Sheikh Abdul Kadir
Universiti Teknologi Mara

Professor Dr Norimah A Karim
Universiti Kebangsaan Malaysia

Professor Dr Tilakavati Karupaiah
Universiti Kebangsaan Malaysia

Associate Professor Dr Cheah Yoke Kqueen
Universiti Putra Malaysia

Dr Lee Ching Li
International Medical University

Associate Professor Madya Dr Cheah Whye Lian
Universiti Malaysia Sarawak

Associate Professor Dr Asrulnizam Bin Abd Manaf
Universiti Sains Malaysia

Associate Professor Dr Chan Kok Meng
Universiti Kebangsaan Malaysia

Dr Chau De Ming
Universiti Putra Malaysia

Dr Elise Mognard
Taylor's University

Dr Helen Munn
UK Academy of Medical Sciences

Dr Feisul Idzwan Mustapha
Ministry of Health

Dr Sania Nishtar
Heartfile, Pakistan

Professor Dr Leong Chee Onn
International Medical University

Dr Alvin Ng Lai Oon
Sunway University

Dr Siti Sarah Binti Othman
Universiti Putra Malaysia

Associate Professor Dr Nirmala Bhoo Pathy
University of Malaya

Dr Pasupuleti Visweswara Rao
Universiti Malaysia Kelantan

Dr Azmizam Abdul Rashid
Research & Development Division, PLAN Malaysia

Dr Nur Akmarina Mohd Said
University of Malaya

Dr Mohd Razif Shahril
Universiti Sultan Zainal Abidin

Dr Razinah Sharif
Universiti Kebangsaan Malaysia

Dr Fairolniza Mohd Sharif
Univeristi Putra Malaysia

Dr Tan Yee Shin
University of Malaya

Dr Tee E Siong
Nutrition Society of Malaysia

Ms Megawati Suzari
Fonterra Brands Malaysia

Professor E-Shyong Tai
Duke NUS Medical School, Singapore

Professor Dr Ruzita Abd Talib
Universiti Kebangsaan Malaysia

Dr Sharifah Wajihah Wafa
Universiti Sultan Zainal Abidin

Dr Phan Chia Wei
University of Malaya

Associate Professor IR Dr Leong Wai Yie
Taylor's University

Dr Adeline Chia Yoke Yin
Taylor's University

Professor Lawrence Ho Khek-Yu
National University Health System, Singapore



Academy of Medical Sciences
41 Portland Place
London W1B 1QH

 @acmedsci

+44 (0)20 3141 3200
info@acmedsci.ac.uk
www.acmedsci.ac.uk

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Registered Company No. 3520281



Level 20, West Wing, Tingkat 20, Sayap barat,
Menara MATRADE, Jalan Sultan Haji Ahmad Shah,
50480 Kuala Lumpur, Wilayah Persekutuan, Malaysia

 @AkademiSains

+60 (3)6203 0633
www.akademisains.gov.my